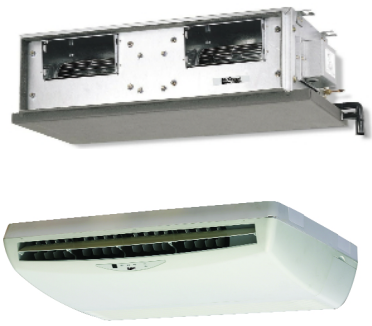
Advanced, affordable chilled water solutions.

McQuay Hydroflex™

Residential and Light Commercial Chilled Water System



McQuay® Air Conditioning

McQuay Hydroflex System

Chilled Water Solutions Made Affordable

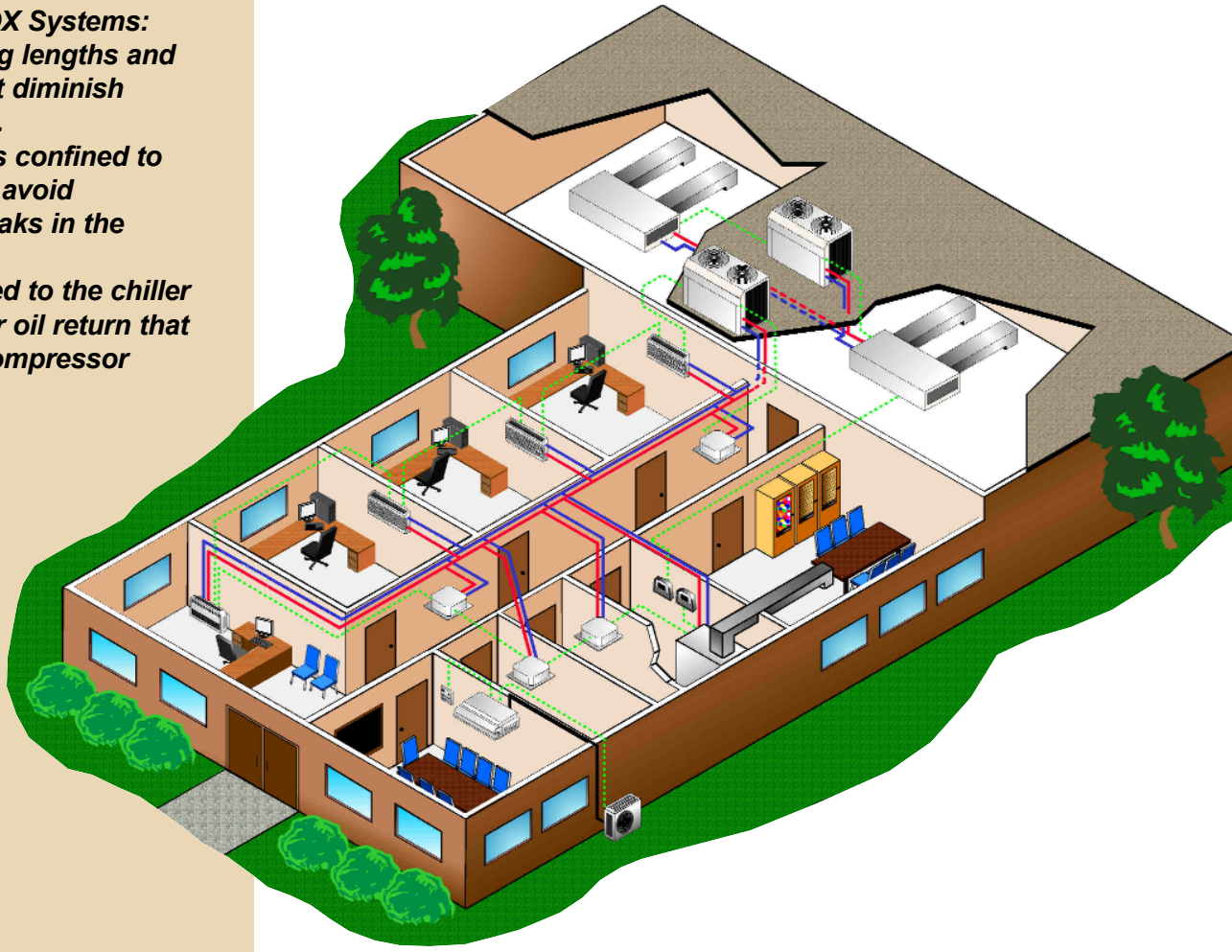
Benefits:

- ***Advanced communicating McQuay Smart Manager controls allow easy remote monitoring of the complete chilled water system for superior comfort, reduced energy consumption.***
- ***Cooling only and heat pump models for year-round comfort in a variety of climates.***
- ***Multiple compressors provide staged capacity capability for precise temperature control, high efficiency.***
- ***Independent zone control provides superior comfort based on the air conditioning requirements of each zone.***
- ***Outperforms DX Systems:***
  - ***Longer piping lengths and bends do not diminish performance.***
  - ***Refrigerant is confined to the chiller to avoid refrigerant leaks in the building.***
  - ***Oil is confined to the chiller to avoid poor oil return that can cause compressor damage.***

The McQuay Hydroflex™ system is a chilled water air conditioning solution that has been packaged for light commercial and residential applications, at a cost that makes it ideal for your budget.

Chilled water systems are widely used in heavy commercial and industrial applications to deliver superior comfort in multiple spaces. Using the proven benefits of chilled water avoids the restrictions of traditional ducted systems and offers more capacity control than direct expansion refrigerant systems for precise, efficient comfort air conditioning. Refrigerant and oil are confined outdoors, in the chiller, to avoid leaks inside the building and poor oil return that can cause compressor damage.

The Hydroflex system captures these benefits for buildings that are ideally suited for zoned comfort conditioning, including offices, hospitals, restaurants, hotels, shopping complexes, condominiums, apartments and villas.



Comprehensive Solution

McQuay is committed to offer you the best system for your air conditioning requirements. We provide a comprehensive solution for selecting equipment, designing the water piping and providing easy operating control of your Hydroflex system.

Available with cooling only or heat pump operation, the Hydroflex system incorporates the technology of advanced communicating controls, microprocessor-controlled chillers and a diverse variety of fan coil and air handler selections. User-friendly software programs facilitate equipment selection, giving you total flexibility to customize your system to meet the specific requirements your application.

Sourcing from McQuay for your air conditioning requirements provides you with products that are manufactured to the highest quality standards in ISO certified facilities. The strength of our global organization and local support give you a reliable source for technical support, parts and service for your Hydroflex system.

Microprocessor-Controlled Chillers

Diverse Fan Coil and Air Handler Selections

Advanced Communicating Controls

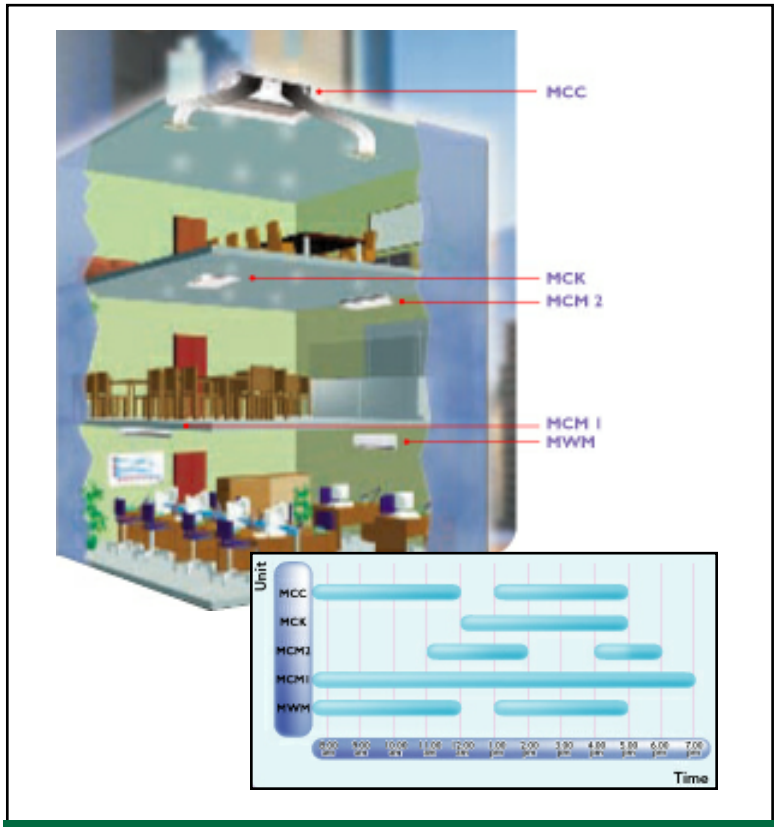
Smart Manager Controller

Complete Control of Hydroflex Systems

The heart of the McQuay Hydroflex system is the Smart Manager controller, which manages the operation of up to 120 chilled water fan coil units and 50 chillers from one point inside your building. Featuring advanced microprocessor technology, comprehensive control features and a user-friendly interface, Smart Manager allows you to provide maximum comfort and reduce the operating and service costs of your Hydroflex system.

Besides allowing users to independently control each connected unit, the Smart Manager controller can provide zoned or global control based on the air conditioning system load of your building. In addition, through the Smart Manager interface with LCD display, users can program energy saving setbacks and receive alarm notifications and operating data to keep your Hydroflex system operating at peak efficiency.

All McQuay chillers and fan coils are pre-programmed to be compatible with the Smart Manager controller, reducing installation and start-up costs, and promoting reliable operation.



Programmable timer allows you to preset unit ON/OFF mode individually or by zone to conserve energy during unoccupied periods.

Features and Benefits

Supports up to 50 chillers and 120 fan coil units. Meets the requirements of a wide variety of applications.

Displays up to 46 chiller and 6 fan coil faults/alarms. Simplifies troubleshooting and reduce valuable service time.

Priority settings. Offer users flexibility to preset the priority of operation on chiller(s) or fan coil unit(s) so that units are automatically forced OFF if the priority units are OFF.

Threshold value setting. Offers users flexibility to preset operating thresholds that will automatically force all units into COOL or HEAT mode if the number of units requiring either mode crosses the threshold for that mode.

Programmable timer. Allows users to preset two ON/OFF timers for each unit and up to five timers for multiple units based on the time and day of the week to greatly reduce energy costs during unoccupied periods.

Holiday setting. Allows users to preset up to 10 holiday timers (99 day duration each) to automatically turn units OFF and greatly reduce energy costs during unoccupied holidays.

Alarm memory backup (EEPROM). Will display the last state of Chiller/Fan Coil unit alarms prior to a power failure and allows service technicians to view previous alarm records to assist in troubleshooting and maintenance.

Password protection for advanced parameter settings (Chillers). Helps prevent the loss of key chiller operating parameters that have been set by experienced professionals.

Low power mode (Chillers and Fan Coils). Helps conserve energy during an electrical power breakdown, operating on a built-in backup battery with no LCD display and one timer and interrupt active.

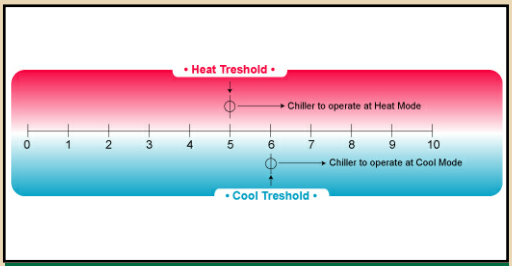
Key parameter display. Saves service technicians time by allowing key parameters (defrost/compressor discharge sensor temperature, water in/out temperature, compressor ON/OFF status and COOL/HEAT mode water-in temperature, etc.) to be viewed on the Smart Manager keypad versus at each unit.

Accumulative compressor run time. Allows service technicians to view compressor run times and provides a reminder for routine system service.

Multiple temperature zone control. Fan coil units can be managed independently or in zones with similar air conditioning requirements to provide maximum comfort.

Real Time Clock (RTC). Time and date appear on all LCD screens for easy reference and can be set by the user.

Alarm messages display on the Smart Manager LCD to simplify troubleshooting. Alarms are automatically cleared once the fault has been resolved



Threshold value setting automatically forces units into HEAT or COOL mode once the threshold for that mode has been crossed.

Air-Cooled Mini Chillers

Chilled Water Solutions For Hydroflex Systems

Models:
MAC 20/25/30 C/CR
M4AC 20/25/30 C/CR

Capacity:
Cooling: 5.3 / 6.7 / 8.1 KW
Heating: 6.5 / 7.3 / 9.2 KW

Refrigerant: R-22, R-407C

Model:
M5AC 30/40/50/55 CR

Capacity:
Cooling: 7.3 / 11.7 / 13.5 / 14.9 KW
Heating: 9.8 / 13.6 / 15.4 / 18.0 KW

Refrigerant: R-410A

Models:
MAC 40/50/60 C/CR
M4AC 40/50/60 C/CR

Capacity:
Cooling: 11.7 / 13.5 / 15.5 KW
Heating: 12.6 / 15.2 / 17.3 KW

Refrigerant: R-22, R-407C

Models
MAC 80/100/120/150 C/CR
M4AC 80/100/120/150 C/CR

Capacity:
Cooling: 22.6 / 27.6 / 33.1 / 40.5 KW
Heating: 26.4 / 32.2 / 35.2 / 38.7 KW

Refrigerant: R-22, R-407C

The McQuay Hydroflex system includes a complete line of air-cooled chiller products that allow you to closely match the air conditioning requirements of your residential or light commercial application.

Selection of your McQuay chiller and the connecting piping for your Hydroflex system is made easy by our user-friendly section software.

McQuay chillers are equipped with all necessary components for chilled water air conditioning, including a circulating water pump, expansion tank, compact brazed plate heat exchanger and differential pressure switch. Each unit includes a microprocessor controller that is pre-programmed to integrate with the Smart Manager controller through a simple connection in the unit's wired control panel.

This comprehesive approach helps ease the job of the installer and promotes reliable start-up and efficient operation over the life of your Hydroflex system.

New Tandem Compressor Mini Chiller

Model M5AC 30/50/55 C/R

High Efficiency
- High efficiency compressors minimize mechanical losses, gas flow losses and turbulence.

Tandem Compressors Provide Capacity Step Control
- 3 steps (0%-40%-60%-100%) for M5AC 40 and 50 CR
- 2 steps (0%-50%-100%) for M5AC 30 and 55 CR

Eliminates Requirement For Water Storage
- Tandem compressors combined with microprocessor algorithm control can eliminate the requirement for a water tank

Field-Selectable Power Supply
- Single phase and 3 phase power supply connection

Environmentally Friendly
- Zero ozone depletion potential R-410A refrigerant.

Features and Benefits

Compact design. Integrate easily into the architechtural design of residential and light commercial buildings.

Scroll compressors. Provide quiet, reliable opearation over a wide temperature range, and include phase protection to prevent reverse rotation (Models MAC/M4AC 20 C/CR and M5AC 30/50/55 C/R use a rotary compressor with phase protection).

Fully equipped for hydronic applications. Factory-packaged and tested units lower installation costs and promote reliable start-up and efficient operation.

Brazed plate heat exchanger. Closely arranged AISI 316 stainless steel plates provide highly efficient heat transfer.

Microprocessor control. Factory-integrated to provide efficient operation, alarm notification and to initiate unit protective actions.

Partial loading. Models MAC/M4AC 80~150 C/CR and M5AC 30/50/55 C/R have two separate refrigerant circuits so units can operate at 0-50-100% of rated capacity for improved efficiency, especially at low load conditions.

Boiler connection. Allows units to serve as sole heating water source in cooling only systems, or as a booster heat source in heat pump systems.

Unit protective devices. Including high and low pressure switches, discharge temperature sensor, pressure relief valve, compressor water pump and fan motor overload protection.

Anti-freeze protection. Including a built-in heater in the BPHE to prevent water from freezing inside, an anti-freeze sensor that shuts down the compressor if the water temperature becomes too cold and a water pressure differential switch to verify that water is flowing in the pipes when the chiller is in operation.

Sequencing control. Models MAC/M4AC 80~150 C/CR and M5AC 30/50/55 C/R compressors will cut in and out, depending on their cumulative operating time, to avoid compressor overload and promote longer compressor life.

Modular installation. Models MAC/M4AC 80~150 C/CR are available for modular connection in a network of up to 50 chillers using the microprocessor controller. External water piping connections can be made from the left or right side of the unit.

Front panel access. Provides easy access to components for maintenance and service.

Environmentally friendly refrigerant. Models using non-ozone depleting R-407C and R-410A refrigerants are available in early support of the Montreal Protocol.

High Efficiency, Stainless Steel Brazed Plate Heat Exchanger

Chiller Control Panel Allows Customized Control Over Each Connected Unit

McQuay Chiller Control Panel

Features and Benefits

- Standard with each McQuay chiller.
- Unit-mounted or remotely installed up to 100 meters from the unit.
- Allows user to input unique parameter settings for customized control.
- Provides current operation status and alarm display.
- Provides tracing fault record for easy troubleshooting.
- 8-line grapical LCD display is easy to read.
- Menu selction and 8-button keypad allow easy screen navigation and modification of selected values.

Chilled Water Fan Coils

Space Conditioning Solutions For Hydroflex Systems

NIM Copy

McQuay offers an extensive line of chilled water fan coil units to meet any indoor residential or light commercial application. Wall, ceiling or floor mounted models in a range of capacities match the installation and air conditioning load requirements of a variety of spaces. Because they often reside in occupied spaces, McQuay provides quiet operation and an aesthetically pleasing, ergonomic design to match any decor.

McQuay chilled water fan coil units are microprocessor-controlled, with built-in self-diagnostic and unit protection algorithms for reliable operation and easy troubleshooting. Units include a wireless or wired controller as standard, allowing occupants to easily adjust comfort settings. Units may also be controlled using the McQuay Network Interface Module (NIM) for individual, zoned or global control from a single personal computer.

Wall Mounted

MWM 005/007/010/015/020/025 FW

MWM 301 W

STANDARD

G12 Wireless Controller

OPTIONAL

SLM Wired Controller

AC-5300 Wireless Controller

FEATURES:

- Slim, compact and lightweight
- Low sound pressure level
- 3-stage filtration system (except MWM 301 W)
- Detachable and washable air intake grille
- Automatic air swing
- Mode and fan speed selection, 24-hour real timer

Ceiling Convertible

MCM 007/010/015 CBW

MCM 020/025/040/050 DW

STANDARD

G12 Wireless Controller

OPTIONAL

SLM Wired Controller

AC-5300 Wireless Controller

FEATURES:

- Flexibile installation under ceiling or floor standing
- Automatic Air swing
- 2-way air discharge (horizontal and bottom) for better air distribution
- Strong air flow volume and air throw distance makes units ideally suited for restaurants, shops and other light commercial buildings.
- Mode selection, fan speed, 24-hour real timer

Ceiling Cassette

MCK 010/015/020 CW
570mm (w) x 570mm (l)

MCK 15/20/25 BW
650mm (w) x 650mm (l)

2 Pipe System: MCK 020/025/030/040/050 AW
4 Pipe System: MCK 020/025/030/040/050 AWH
820mm (w) x 820mm (I)

STANDARD

SLM Wired Controller

OPTIONAL

Netware III
Wired Controller

FEATURES:
- 4-way air discharge to provide better air distribution to room
- Automatic air swing
- Easy service and maintenance
- Built-in high pressure head drain pump can pump condensate water up to 700mm
- Built-in water float switch helps prevent condensate water overflow
- Mode selection, fan speed, 24-hour real timer

Ceiling Concealed

MCC 010/015/020/025/030/040/050/060 CW

MCC 028/038 CW

STANDARD

SLM Wired Controller

OPTIONAL

Netware III
Wired Controller

FEATURES:
- Wide capacity range
- 4 speed fan motor
  - Each speed offers different external static pressure and air flow for installation flexibility to match application requirements
- High External Static Pressure available up to 18mm
- Ssecondary drain pan provides protection against condensate water leaks
- Availability of various optional duct accessories specially designed to for Model MCC-CW
- Filter adaptor kit of 1 inch is available as optional accessory
- Mode selection, fan speed selection

MCW and MDB

Ceiling Convertible

MCM 007/010/015 CBW

MCM 020/025/040/050 DW

STANDARD

G12 Wireless Controller

OPTIONAL

SLM
Wired
Controller

AC-5300
Wireless
Controller

FEATURES:

- Flexibile installation under ceiling or floor standing
- Microprocessor control
- Automatic Air swing
- 2-way air discharge (horizontal and bottom) for better air distribution
- Strong air flow volume and strong air throw distance makes it a perfect choice for light commercial such as restaurants, shops
- Mode selection, fan speed, 24-hour real timer